Amendments to the Claims

Please cancel claims 3 and 7, and amend claims 1 and 5 as shown in the following listing of claims. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A method of assessing the quality of skin print images, and particularly fingerprint images, characterized in that gradients are calculated for pixels of a skin print image such that a gradient is calculated for each pixel of the skin print image, in that a mean value is derived from the gradients of the pixels in each region of the skin print image, and in that similarities in the mean values from region to region form a measure of quality, wherein the mean values are entered in two directional matrices for x and y, in that scalar products are formed of the directional matrices together with the matrices that are displaced horizontally, vertically and in the directions of both diagonals by one region, in that each of the products that were obtained in that way by multiplying the matrices are summed over all the regions of the skin print image, and in that the sums are added together and are divided by the sum of the scalar products of the directional matrices with themselves in order to calculate the quality measure, said sum of the scalar products of the directional matrices with themselves being summed up over all the regions, wherein the quality measure is calculated using the following equation:

$$Q = \frac{(A_x + A_y + A_{xy} + A_{yx})}{4A},$$

where Q is the quality measure and A_x, A_y, A_{xy} and A_{yx} are the scalar products, wherein A_x, A_y, A_{xy}, A_{yx} and A are computed using the following equations:

$$A_x = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k+1,l} \\ (g_y)_{k+1,l} \end{bmatrix} \right\rangle,$$

$$A_y = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l+1} \\ (g_y)_{k,l+1} \end{bmatrix} \right\rangle,$$

$$A_{xy} = \sum_{k,l=1}^{max-1} \langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k+1,l+1} \\ (g_y)_{k+1,l+1} \end{bmatrix} \rangle,$$

$$A_{yx} = \sum_{k,l=1}^{max-1} \langle \begin{bmatrix} (g_x)_{k+1,l} \\ (g_y)_{k+1,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l+1} \\ (g_y)_{k,l+1} \end{bmatrix} \rangle, \text{ and}$$

$$A = \sum_{k,l=1}^{max} \langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix} \rangle.$$

2. (previously presented) A method as claimed in claim 1, characterized in that the gradients calculated initially, which have the components $g_{x(alt)}$ and $g_{y(alt)}$, are squared after the fashion of a complex number by the formulas $g_x = g_{x(alt)}^2 - g_{y(alt)}^2$ and $g_y = 2g_{x(alt)} * g_{y(alt)}$.

3. (canceled).

4. (previously amended) A method as claimed in claim 1, characterized in that the lengths of the average gradients are used to determine a region of interest of the skin print that has been scanned.

5. (previously presented) An arrangement for assessing the quality of skin print images, and particularly fingerprint images, characterized by a system for calculating

gradients for pixels of a skin print image such that a gradient is calculated for each pixel of the skin print image,

a mean value derived from the gradients of the pixels in each region of the skin print image, and

a measure of quality from similarities in the mean values from region to region,

wherein the system is arranged

to enter the mean values in two directional matrices for x and y,

to form scalar products of the directional matrices having matrices that are displaced horizontally, vertically and in the directions of both diagonals by one region,

to sum, over all the regions of the skin print image, each of the products that are obtained by multiplying the matrices, and

to form the quality measure by adding the sums together and dividing the scalar products of the directional matrices, said scalar products having been summed over all the regions, by themselves,

wherein the quality measure is calculated using the following equation:

$$Q = \frac{(A_x + A_y + A_{xy} + A_{yx})}{4A},$$

where Q is the quality measure and A_x, A_y, A_{xy} and A_{yx} are the scalar products, wherein A_x, A_y, A_{xy}, A_{yx} and A are computed using the following equations:

$$A_x = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k+1,l} \\ (g_y)_{k+1,l} \end{bmatrix} \right\rangle,$$

$$A_y = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l+1} \\ (g_y)_{k,l+1} \end{bmatrix} \right\rangle,$$

$$A_{xy} = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k+1,l+1} \\ (g_y)_{k+1,l+1} \end{bmatrix} \right\rangle,$$

$$A_{yx} = \sum_{k,l=1}^{max-1} \left\langle \begin{bmatrix} (g_x)_{k+1,l} \\ (g_y)_{k+1,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l+1} \\ (g_y)_{k,l+1} \end{bmatrix} \right\rangle, \text{ and}$$

$$A = \sum_{k,l=1}^{max} \left\langle \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix}, \begin{bmatrix} (g_x)_{k,l} \\ (g_y)_{k,l} \end{bmatrix} \right\rangle.$$

6. (previously presented) An arrangement as claimed in claim 5, characterized in that the system is arranged to square the initially calculated gradients, which have the components $g_{x(alt)}$ and $g_{y(alt)}$, after the fashion of a complex number by the formulas $g_x = g_{x(alt)}^2 - g_{y(alt)}^2$ and $g_y = 2g_{x(alt)} * g_{y(alt)}$.

7. (canceled).

8. (previously amended) An arrangement as claimed in claim 5, characterized in that the system is arranged to determine, from the lengths of the averages gradients, a region of interest of the skin print that has been scanned.